

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (currently amended) A smart culture vessel for holding a sample to be tested in a culture medium comprising:

a bio-sensor sealed in the vessel in the culture medium with the sample, said bio-sensor having a coating for attracting at least one pathogen expected in the sample; and

a detection circuit responsive to the bio-sensor for indicating the presence of a pathogen on the bio-sensor[[]]; and

an electrical connection between the bio-sensor and the detection circuit to link the bio-sensor to the detection circuit.

2. (original) The smart culture vessel of claim 1 in which the bio-sensor includes an array of bio-sensor elements.

3. (original) The smart culture vessel of claim 2 in which each bio-sensor element has a different coating for attracting pathogens.

4. (currently amended) The smart culture vessel of claim 1 in which the detection circuit is configured to drives the bio-sensor over a range of predetermined frequencies and further configured to detects a shift in frequency over time due to the attached pathogen.

5. (original) The smart culture vessel of claim 1 in which the detection circuit is external to the vessel.

6. (original) The smart culture vessel of claim 4 in which the range of predetermined frequencies is near the resonant frequency of the bio-sensor.

7. (currently amended) The smart culture vessel of claim 1 in which the detection circuit is configured to drives the bio-sensor at a predetermined frequency and further configured to detects a shift in frequency due to the attached pathogen.

8. (original) The smart culture vessel of claim 7 in which the predetermined frequency is the resonant frequency of the bio-sensor.

9. (original) The smart culture vessel of claim 6 in which the shift in frequency is a shift in the resonant frequency of the bio-sensor.

10. (original) The smart culture vessel of claim 8 in which the shift in frequency is a shift in the resonant frequency of the bio-sensor.

11. (currently amended) The smart culture vessel of claim 1 in which the detection circuit is configured to continuously drives the bio-sensor over a range of predetermined frequencies and further configured to detects a shift in frequency over time due to the attached pathogen.

12. (currently amended) The smart culture vessel of claim 1 in which the detection circuit is configured to drives the bio-sensor over a range of predetermined frequencies and further configured to instantaneously detects a shift in resonant frequency due to the attached pathogen.

13. (currently amended) The smart culture vessel of claim 1 in which the detection circuit is configured to continuously drives the bio-sensor at its resonant frequency and further configured to detects a shift in frequency due to the attached pathogen.

14. (currently amended) The smart culture vessel of claim 1 in which the detection circuit is configured to drives the bio-sensor at its resonant frequency and is further configured to instantaneously detects a shift in frequency due to the attached pathogen.

15. (new) The smart culture vessel of claim 1 in which the electrical connection is comprised of electric wire.

16. (new) The smart culture vessel of claim 1 in which the electrical connection is comprised of a cable.

17. (new) The smart culture vessel of claim 1 in which the detection circuit is configured to drive the bio-sensor at a predetermined frequency and further configured to instantaneously and continuously detect a shift in frequency due to the attached pathogen.

18. (new) A smart culture vessel for holding a sample to be tested in a culture medium comprising:

- a bio-sensor sealed in the vessel in the culture medium with the sample,
- said bio-sensor having a coating for attracting at least one pathogen expected in the sample; and
- a detection circuit responsive to the bio-sensor for indicating the presence of a pathogen on the bio-sensor, said detection circuit configured to drive the bio-sensor at a predetermined frequency.